



#15/A

SEQUENCE LISTING

<110> Mitchell, Lloyd G.
Garcia-Blanco, Mariano A.
Puttaraju, Madaiah
Mansfield, Gary S.

<120> METHODS AND COMPOSITIONS FOR USE IN
SPLICOSOME MEDIATED RNA TRANS-SPLICING

<130> A31304-B-A-B 072874.0135

<140> 09/756,096
<141> 2001-01-08

<150> 09/158,863
<151> 1998-09-23

<150> 09/133,717
<151> 1998-08-13

<150> 09/087,233
<151> 1998-05-28

<150> 08/766,354
<151> 1996-12-13

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ttccttgca 68

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<210> 27
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<210> 29
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<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 29
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<210> 30

<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<210> 31
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 31
ctgaaagctt gttaacttat tattttgac accagacc 38

<210> 32
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<210> 33
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<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

<400> 33
gcatggatcc tccggagggc ccctgggcac cttccac 37

<210> 34
<211> 38
<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer complimentary to the beta HCG6 gene (accession #X00266)

<400> 34
ctgactgcag ggttaaccgga caaggacact gcttcacc 38

<210> 35

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer complimentary to the beta HCG6 gene (accession #X00266)

<400> 35
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<211> 37

<212> DNA

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<220>

<223> Oligonucleotide primer complimentary to the beta HCG6 gene (accession #X00266)

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ctgaaagctt gttaaccaggc tcaccatggt gggcag 37

<210> 37

<211> 22

<212> DNA

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<220>

<223> Oligonucleotide primer complimentary to the Escherichia coli lacZ gene

<400> 37
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<210> 38

<211> 21

<212> DNA

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<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 38
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<210> 39
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<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 39
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<210> 40
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<400> 40
acctggggccc acccattatt aggtcattat ccgcggaaca ttata 45

<210> 41
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<212> DNA
<213> Homo sapiens

<400> 41
acctctgcag gtgaccctgc aggaaaaaaaaa agaag 35

<210> 42
<211> 30
<212> DNA
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<400> 42
acctctgcag acttcacttc taatgtatgtat 30

<210> 43
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acctgcggcc gcctaatgtat gatgtatgtat atgctttctt agttggcatg c 51

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<211> 32
<212> DNA
<213> Homo sapien

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<210> 45
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<400> 45
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<210> 46
<211> 35
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<213> Homo sapien

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<210> 47
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<211> 21
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<213> Homo sapien

<400> 48
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<210> 49
<211> 21
<212> DNA
<213> Homo sapien

<400> 49
cgccta atga t g a t g a t g a t g a t g 21

<210> 50

<211> 21
<212> DNA
<213> Homo sapien

<400> 50
cttcttggta ctcctgtcct g 21

<210> 51
<211> 32
<212> DNA
<213> Homo sapien

<400> 51
gacctctcga gggatttggg gaattatttg ag 32

<210> 52
<211> 21
<212> DNA
<213> Homo sapien

<400> 52
aactagaagg cacagtcgag g 21

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Human chorionic
gonadotropin gene 6 sequences and Corynebacterium
diphtheriae diphtheria toxin A sequence

<400> 53
gagatgttcc agggcgtgat gatg 24

<210> 54
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to specification

<400> 54

gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucuguu uuuuucucga 120
gcugcag 127

<210> 55
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to specification

<400> 55
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nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucugua uuauucucga 120
gcugcag 127

<210> 56
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to specification

<400> 56
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aaguucuguc cuugucucga 120
gcugcag 127

<210> 57
<211> 132
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Human chorionic
gonadotropin gene 6 sequences and Corynebacterium
diphtheriae diphtheria toxin A sequences

<400> 57
caggggacgc accaaggatg gagatgttcc agggcgctga tgatgttgg tattttttt 60
aaatcttttgc tgatggaaaa ctttttttcg taccacggga ctaaacctgg ttatgttagat 120
tccattcaaa aa 132

<210> 58
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 58
gaattcggta ccatgggg 18

<210> 59
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 59
cgtttacagg taagaggatc ctccggaggg ccc 33

<210> 60
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 60
tggtgtcaaa aataataagt taacaagctt 30

<210> 61
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences and Human chorionic
gonadotropin gene 6 exon 2 sequences

<400> 61
cagcagcccc tgtaaacggg gatac 25

<210> 62
<211> 286
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences

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ggcttcgct acctggagag acgcgcggc tgatccttg cgaatacgcc cacgcgatgg 60
gtaacagtct tggcggttc gctaaatact ggcaggcggt tcgtcagttat ccccggttac 120
agggcggctt cgtctaataa tggactggg tggatcagtc gctgattaaa tatgtatgaaa 180
acgggcaacc cgtggtcggc ttacggcggt gattttggcg atacgccaa cgatcgccag 240
ttctgtatga acggctcggt ctttgccgac cgacgcgcg atccag 286

<210> 63
<211> 196
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 63
ggcttcgct acctggagag acgcgcggc tgatccttg cgaatacgcc cacgcgatgg 60
gtaacagtct tggcggttc gctaaatact ggcaggcggt tcgtcagttat ccccggttac 120
aggggctgct gctgttgctg ctgctgagca tggcgggac atgggcattcc aaggagccac 180
ttcggccacg gtgccc 196

<210> 64
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product comprising cystic fibrosis
transmembrane regulator-derived sequences and His
tag sequence

<400> 64
gctagcggtt aaacggggcg acccatcatt attaggtcat tatccgcggaa acattattat 60
aacgttgctc gagtactaac tggaaacctct tctttttttt cctgcagact tcacttctaa 120
tcatgattat gggagaactg gaggccttcag agggtaaaat taagcacagt ggaagaattt 180
cattctgttc tcagtttcc tggattatgc ctggcaccat taaagaaaat atcatcttg 240

gcggccgcca ctgtgctgga tatctgcaga attccaccac actggactag tggatccgag 300
ctcgttacca aggttaagtt taaaccgctg atcagcctcg actgtgcctt ctagttgccca 360
gccatctgtt gtttgcctt ccccccgtgcc ttccttgacc ctggaagggtg ccactccac 420

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Splice junction sequence

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<210> 66
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> C terminal residues from glutathione -S- transferase

<400> 66
Asp Tyr Lys Asp Asp Asp Lys
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<210> 67
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived from Escherichia coli lacZ gene

<400> 67
ggagttgatc ccgtc 15

<210> 68
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived from Escherichia coli lacZ gene

<400> 68
gcagtgtcct tgtgcggta ccctgcaggg cggcttc 37

<210> 69
<211> 120
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<213> Artificial Sequence

<220>
<223> Binding domain of PTM

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tattaactca tttgattcaa aatatttaaa atacttcctg tttcatactc tgctatgcac 120

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequence of PTM

<400> 70
aacattatta taacgttgct cgaa 24

<210> 71
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point, pyrimidine tract and acceptor splice site of PTM

<400> 71
tactaactgg taccttttct ttttttttg atatcctgca gggcggc 47

<210> 72
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> Donor site and spacer sequence of PTM

<400> 72
tgaacggtaa gtgttatcac cgatatgtgt ctaacctgat tcgggccttc gatacgctaa 60

gatccaccgg 70

<210> 73
<211> 260
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of spacer sequence

<400> 73
tcaaaaagtt ttcacataat ttcttacctc ttcttgaatt catgcttga tgacgcttct 60
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ctggaaaact gataacacaa tgaaattctt ccactgtgct taaaaaaacc ctcttgaatt 180
ctccatttct cccataatca tcattacaac tgaactctgg aaataaaacc catcattatt 240
aactcattat caaatcacgc 260

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<212> DNA
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<220>
<223> Oligonucleotide primer

<400> 74
cgctggaaaa acgagcttgt tg 22

<210> 75
<211> 23
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<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 75
actcagtgtg attccacacctt ctc 23

<210> 76
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 76
gacctctgca gacttcactt ctaatgatga ttatgg 36

<210> 77
<211> 33
<212> DNA
<213> Artificial Sequence

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<223> Oligonucleotide primer

<400> 77
ctaggatccc gttctttgt tcttcactat taa 33

<210> 78
<211> 33
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<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 78
ctagggttac cgaagtaaaa ccatacttat tag 33

<210> 79
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 79
gcatggttac cctgcagggg ctgctgctgt tgctg 35

<210> 80
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 80
ctgaaagctt gttaaccagc tcaccatggt gggcag 37

<210> 81
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Binding domain of PTM molecule

<400> 81

accatcatt attaggtcat tat

23

<210> 82

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 82

gatcaaatct gtcgatcctt cc

22

<210> 83

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 83

ctgatccacc cagtcccatt a

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<210> 84

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 84

gactgatcca cccagtccta ga

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<210> 85

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Random sequence inserted to replace 3' splice site

<221> misc_feature

<222> (7)...(30)

<223> spacer sequence, see SEQ ID NO 70

<400> 85
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<210> 86
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 86
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tatgtgaaa a 71

<210> 87
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 87
tttggcgata cgccgaacga tcgcccagttc tgtatgaacg gtctggtctt tgccgaccgc 60
acgccc 66

<210> 88
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM sequences

<400> 88
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tccggccgca tcagctttg cagccattc agttggatca tgcccggtac catcaaggag 120
aacataatct tcggcgtag ttacgacgag taccgctatc gctcggtat taaggcctgt 180
cagttggagg ag 192

<210> 89
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 89

gagcaggcaa gacgagcttg ctcat 25

<210> 90
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
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<400> 90
gagaacataa tcttcggcgt cagttacg 28

<210> 91
<211> 30
<212> DNA
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<220>
<223> Oligonucleotide

<400> 91
gtcagttgga ggaggacatc tccaaagtgg 30

<210> 92
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 92
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tccggccgca tcagctttg cagccaaattc agttggatca tgcccggtac catcaaggag 120
aacataatct tcggcgtag ttacgacgag taccgctatc gctcggtat taaggcctgt 180
cagttggagg ag 192

<210> 93
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM sequences

<400> 93
aaatatcatt ggtgtttctt atgatga 27

<210> 94

<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 94
ccaactagaa gaggacatct ccaagttgc 30

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<220>
<223> Oligonucleotide

<400> 95
atgatcatgg gcgagttaga accaagttag 30

<210> 96
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<220>
<223> Oligonucleotide

<400> 96
aaaatatcat ctttgggtgtt tcctatg 27

<210> 97
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 97
ccaactagaa gaggacatct ccaagtt 27

<210> 98
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' splice site

<400> 98
cgtttacagg taagtggatc c 21

<210> 99
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' splice site

<400> 99
ctgcagggcg gcttcgtcta ataatgg 27

<210> 100
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence from trans-splicing domain

<400> 100
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<210> 101
<211> 1584
<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM

<400> 101
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agaccaattt tgagggaaagg atacagacag cgcctggaat tgcagacat ataccaaattc 120
ccttcgttg attctgctga caatctatct gaaaaattgg aaagagaatg ggatagagag 180
ctggcttcaa agaaaaatcc taaactcatt aatgcccttc ggcgatgtt tttctggaga 240
tttatgttct atggaatctt tttatattta ggggaagtca ccaaagcagt acagcctctc 300
ttactggaa gaatcatagc ttcctatgac ccggataaca aggaggaacg ctctatcg 360
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gccattttg gccttcata cattggaatg cagatgagaa tagctatgtt tagttgatt 480
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ggagcaggca agacgagctt gctcatgtat atcatggcg agttagaacc aagtgaaggc 1440
aagatcaaac attccggccg catcagctt tgcagccaat tcagttggat catgcccgt 1500
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attaaggcct gtcagttgga ggag 1584

<210> 102
<211> 323
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-splicing domain of CFTR PTM

<400> 102
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ggtaaaaaag ttttacata atttcttacc tcttcttgc ttcatgctt gatgacgctt 120
ctgtatctat attcatcatt ggaaacacca atgatatttt cttaatggt gcctggcata 180
atcctggaaa actgataaca caatgaaatt ctccactgt gcttaatttt accctctgaa 240
ttctccattt ctcccataat catcattaca actgaactct ggaaataaaa cccatcatta 300
ttaactcatt atcaaatcac gct 323

<210> 103
<211> 165
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM binding domain

<400> 103
gctagcaata atgacgaagc cgcccctcac gctcaggatt cactgcctc caattatcat 60
cctaagcaga agtgtatatt cttatttgta aagattctat taactcattt gattcaaaat 120
attnaaaata ctccctgttt cacctactct gctatgcacc cgccg 165

<210> 104
<211> 225
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-splicing domain of CFTR PTM

<400> 104
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gcagaagtgt atattcttat ttgtaaagat tctattaact catttgattc aaaatattta 120
aaatacttcc tggcacct actctgctat gcacccgcgg aacattatta taacgttgc 180
cgaatactaa ctgttacctc ttcttttt tttgatatcc tgcag 225

<210> 105
<211> 3069
<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM sequence

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aatatcatct ttgggtttc ctatgatgaa tatagataca gaagcgtcat caaagcatgc 180
caactagaag aggacatctc caagtttgcg gagaaagaca atatagttc tggagaaggt 240
ggaatcacac tgagtggagg tcaacgagca agaatttctt tagcaagagc agtatacaaa 300
gatgctgatt tgtattttt agactctcct tttggatacc tagatgttt aacagaaaaaa 360
gaaatatttg aaagctgtgt ctgtaaactg atggctaaca aaacttagat tttggtcact 420
tctaaaatgg aacattaaa gaaagctgac aaaatattaa tttgcatga agtagcagc 480
tatttttatg ggacatttc agaactccaa aatctacagc cagacttttgc ctcaaaactc 540
atggatgtg attcttcga ccaatttagt gcagaaagaa gaaattcaat cctaactgag 600
acttacacc gtttctcatt agaaggagat gtcctgtct cctggacaga aacaaaaaaa 660
caatcttta aacagactgg agagttggg gaaaaaaagga agaattctat tctcaatcca 720
atcaactcta tacgaaaatt ttccattgtg caaaagactc ctttacaaat gaatggcatc 780
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